

ABSTRACT

EVALUATION OF FUNCTIONAL OUTCOME OF PROSTHETIC REPLACEMENT OF COMMUNUTED RADIAL HEAD AND NECK FRACTURE

Aim

- To evaluate the functional outcome of prosthetic replacement of comminuted Radial head and neck fracture

Objectives

1. To analyse the clinical ,radiological & functional outcome of patients treated with prosthetic replacement of comminuted radial head and neck fractures
2. To assess the range of movements, functional outcome at 3months and 6 months and 12 months

Materials and Methods : The present study includes 20 cases of comminuted radial head fractures admitted in GOVERNMENT RAJAJI HOSPITAL, Madurai medical college , between November 2016 to October 2019.

Inclusion criteria :

Mason type II&III Radial head fracture, Radial neck fracture, Age >20 years, Patients without any coexisting major comorbid conditions

Exclusion criteria :

Mason type I radial head fracture, Age <20 years, Concomitant neurovascular injuries, Compound fractures

RESULTS Twenty patients of radial head fractures were treated surgically with radial head replacement and analysed with an average follow up of 12 months. The mean age of the cases was 35 years (range 21 – 60 years). 70% of the patients were less than 40 years. There were 13 males & 7 females. Males dominated our study .14 fractures affected right side & 6on left upper limb 65 % fractures were due to accidental fall. 35% were due to RTA. All types of fractures were simple (closed) fractures. The fractures were labelled according to MASON radial head

fracture classification. 85 % fractures were mason type III, 15 % fractures contributed to MASON TYPE II, NO patients had associated injuries None of them had fracture related pre-operative nerve injuries. None of them had pre existing elbow problems. 13 Patients (65%) operated with in 7 days. 6 patients (30%) operated between 8-14 days.1 patient (5%) operated after 2weeks. ALL of the patients were operated with radial head replacement with bone cementing . No one developed intra operative complications. The average surgical time was 60 minutes ranging from 45 minutes to 90minutes. 13 Patients developed elbow stiffness which were managed by regular physiotherapy and CPM .Most of the patients improved later. Three patients had transient PIN palsy post operatively which spontaneously recovered after 3 weeks. 2 patients developed heterotopic calcification. None of them had implant loosening or capitio humeral arthritis during the one year follow up. NO patients was lost for follow up. At 3 months follow up 14 patients had FAIR MEPS score,4 patients had GOOD MEPS score , only 2 patients had EXCELLENT MEPS score.At 6 months follow up 3 patients had FAIR MEPS score,4 patients had GOOD MEPS score 13 patients had EXCELLENT MEPS score. At 12 months follow up 2 patients had GOOD MEPS score , 18 patients had EXCELLENT MEPS score.

CONCLUSION Previously considered satisfactory radial head excision in comminuted radial head fracture will not affect elbow, radio ulnar joint, wrist joint. But numerous study highlighted the importance of intactness of superior radio ulnar joint is mandatory for stability of elbow joint ,as well as integrity of DRUJ complex. The prosthetic replacement of non reconstructable radial head fracture provides the platform for effective longterm function of the affected limb.

So we conclude in the modern highly demanding era this is technically superior by doing radial head replacement at against excision or osteosynthesis. It definitely having excellent functional outcome when compare to other two procedures.